



## PATENT ABSTRACTS OF JAPAN

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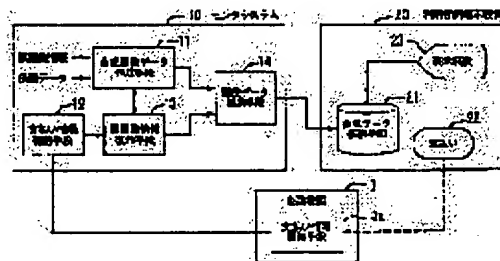
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**(54) IMAGE INFORMATION SYSTEM, STORAGE MEDIUM STORING IMAGE INFORMATION SERVICE TRANSFER PROGRAM, AND STORAGE MEDIUM STORING IMAGE INFORMATION SERVICE DISPLAY PROGRAM**

(57)Abstract:

PROBLEM TO BE SOLVED: To provide the image information system in which the copyright of image information is protected and the user acquires object image information under the permission of the copyright possessor.

SOLUTION: A synthesis image generating means 11 synthesizes protection data onto image information so as to generate synthesized image data. A payment information confirmation means 12 confirms payment information of a charge to decode original image information. An original image information decoding means 13 decodes the synthesized image data into original image information. An image data transfer means 14 transfers the synthesized image data or the decoded original image information. An image data storage means 21 stores the synthesized image data or the decoded original image information. A display device 23 displays the synthesized image data or the decoded original image information. A payment information notice means 3a informs payment information to a center system 10 after receiving a payment notice 22.



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CLAIMS

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[Claim(s)]

[Claim 1] The image information system which offers the image information service according to the demand from a user characterized by providing the following. A synthetic image data creation means to compound protected data to subject-copy image information, and to create synthetic image data. the information on the charge for restoring the aforementioned synthetic image data to the aforementioned subject-copy image information been [ pays and ] alike and related is checked -- paying -- an information check means A subject-copy image information restoration means to restore the aforementioned subject-copy image information from the aforementioned synthetic image data after checking the information about the aforementioned payment. An image data transfer means to transmit the aforementioned synthetic image data or the restored aforementioned subject-copy image information.

[Claim 2] It is the image-information system according to claim 1 carry out that the aforementioned synthetic image-data creation means creates the aforementioned synthetic image data by performing the synthetic operation adding the subject-copy image information transparency value which it is as a result of [ of the level value of the aforementioned subject-copy image information, and the rate of a transmission ratio of the aforementioned subject-copy image information ] addition, and the protected data transparency value which it is as a result of [ of the level value of the aforementioned protected data, and the rate of a transmission ratio of the aforementioned protected data ] addition to each pixel which should compound as

[Claim 3] The aforementioned subject-copy image information restoration means is an image information system according to claim 1 characterized by restoring the aforementioned subject-copy image information by subtracting the aforementioned protected data transparency value from the result of the aforementioned synthetic operation, and carrying out the division of the subtraction value at the rate of a transmission ratio of the aforementioned subject-copy image information.

[Claim 4] In the storage which memorized the image information service transport agent for transmitting image information service to a user by computer The synthetic image data creation function which compounds protected data to subject-copy image information, and creates synthetic image data, It pays. the information on the charge for restoring the aforementioned synthetic image data to the aforementioned subject-copy image information been [ pays and ] alike and related is checked -- with an information acknowledgement function The subject-copy image information restoration function which restores the aforementioned subject-copy image information from the aforementioned synthetic image data after checking the information about the aforementioned payment, The storage which memorized the image information service transport agent for making a computer realize the image data transfer facility which transmits the aforementioned synthetic image data or the restored aforementioned subject-copy image information.

[Claim 5] In the storage which memorized the image information service display program for displaying image information service on a user by computer The image data storing function to store the aforementioned subject-copy image information which is the transfer side of the synthetic image data by which the protected data was compounded, or image information service, and was restored to subject-copy image information, The storage which memorized the image information service display program for making a computer realize the display function which displays the stored aforementioned synthetic image data or the restored aforementioned subject-copy image information.

[Claim 6] The image information system which offers the image information service according to the demand from a user characterized by providing the following. A synthetic image data creation means to compound protected data to subject-copy image information, and to create synthetic image data. A synthetic image data transfer means to transmit the aforementioned synthetic image data. the aforementioned protected data is canceled of the aforementioned synthetic image data, and the information on the charge for restoring the aforementioned subject-copy image information been [ pays and ] alike and related is checked -- paying -- an information check means A release key transfer means to transmit a release key required in order to cancel the aforementioned protected data of the aforementioned synthetic image data after checking the information about the aforementioned payment.

[Claim 7] It is the image-information system according to claim 6 carry out that the aforementioned synthetic image-data creation means creates the aforementioned synthetic image data by performing the synthetic operation adding the subject-copy image information transparency value which it is as a result of [ of the level value of the aforementioned subject-copy image information, and the rate of a transmission ratio of the aforementioned subject-copy image information ] addition, and the protected data transparency value which it is as a result of [ of the level value of the aforementioned protected data, and the rate of a transmission ratio of the aforementioned protected data ] addition to each pixel which should compound as

[Claim 8] The aforementioned release key transfer means is an image information system according to claim 6 characterized by transmitting the aforementioned release key in which the aforementioned subject-copy image information has the coordinate of the field currently compounded by the aforementioned protected data.

[Claim 9] The aforementioned protected data release means is an image information system according to claim 6 characterized by subtracting the aforementioned protected data transparency value from the result of the aforementioned synthetic operation, carrying out the division of the subtraction value at the rate of a transmission ratio of the aforementioned subject-copy image information to each pixel corresponding to the aforementioned coordinate, and canceling the aforementioned protected data.

[Claim 10] In the storage which memorized the image information service transport agent for transmitting image information service to a user by computer The synthetic image data creation function which compounds protected data to subject-copy image information, and creates synthetic image data, The aforementioned protected data is canceled of the synthetic image data transfer facility which transmits the aforementioned synthetic image data, and the aforementioned synthetic image data. It pays. the information on the charge for restoring the aforementioned subject-copy image information been [ pays and ] alike and related is checked -- with an information acknowledgement function The storage which memorized the image information service transport agent for making a computer realize the release key transfer facility which transmits a release key required in order to cancel the aforementioned protected data of the aforementioned synthetic image data after checking the information about the aforementioned payment.

[Claim 11] In the storage which memorized the image information service display program for displaying image information service on a user by computer The synthetic image data by which the protected data was compounded by subject-copy image information, or an image data storing means to store the restored aforementioned subject-copy image information, The protected data release function which receives a release key required in order to cancel the aforementioned protected data of synthetic image data, cancels the aforementioned protected data of the aforementioned synthetic image data, and is restored to the aforementioned subject-copy image information, The storage which memorized the image information service display program for making a computer realize the display function which displays the aforementioned synthetic image data or the restored aforementioned subject-copy image information.

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] this invention relates to the storage which memorized the image information service display program for displaying image information service on a user by the storage and computer which memorized the image information service transport agent for transmitting image information service to a user about the storage which memorized the image information system, the storage which memorized the image information service transport agent, and the image information service display program by the image information system and computer which offer the image information service especially according to the demand from a user.

[0002]

[Description of the Prior Art] The conventional image information system puts an image information file on a center, and is connected with the center through the telephone network etc. by using a home television set, a personal computer, an exclusive terminal, etc. as a terminal. And image information is offered according to the demand from a user, and spread is widely achieved so that information service can be enjoyed simple and economically.

[0003] On the other hand, since image information with such a high definition system is easily offered to a user, in the soft creation place of picture media, the right relation to a problem of copyright is becoming between copyright owners, such as a movie and an illustration, and a user.

[0004]

[Problem(s) to be Solved by the Invention] However, the effective measures [ systems / image information / above ] to protection of copyrights were not taken. Therefore, there was a case where a user without a just right performed backup of image information, the copy to a hard disk, etc.

[0005] It aims at offering the image information system which can be come to hand under consent of a copyright owner by the image information which this invention is made in view of such a point, and the copyright of image information is protected, and a user makes the purpose.

[0006] Moreover, other purposes of this invention are offering the storage which memorized the image information service transport agent which can be come to hand under consent of a copyright owner by the image information which the copyright of image information is protected and a user's makes the purpose.

[0007] Furthermore, other purposes of this invention are offering the storage which memorized the image information service display program which can be come to hand under consent of a copyright owner by the image information which the copyright of image information is protected and a user's makes the purpose.

[0008]

[Means for Solving the Problem] A synthetic image data creation means 11 to create synthetic image data as shown in drawing 1 in order to solve the above-mentioned technical problem in this invention, A subject-copy image information restoration means 13 pays and restore subject-copy image information from the information check means 12 and synthetic image data for a charge to pay and to check information, The center system 10 which consists of image data transfer meanses 14 to transmit synthetic image data or the restored subject-copy image information, An image data storing means 21 to store synthetic image data or the restored subject-copy image information, The image information system characterized by having equipment 20 in the end of a user side edge it consists of display 23 which displays the stored synthetic image data or the restored subject-copy image information is offered.

[0009] Here, the synthetic image data creation means 11 compounds protected data to subject-copy image information, and creates synthetic image data. The charge for restoring synthetic image data to subject-copy image information pays the payment information check means 12, and it checks information. The subject-copy image information restoration means 13 restores synthetic image data to subject-copy image information. The image data transfer means 14 transmits synthetic image data or the restored subject-copy image information to a user. The image data storing means 21 stores synthetic image data or the restored subject-copy image information. Display 23 displays the stored synthetic image data or the restored subject-copy image information.

[0010] Moreover, a synthetic image data creation means 101 to create synthetic image data as shown in drawing 3, A synthetic image data transfer means 102 to transmit synthetic image data, and a charge pay, and information is checked and paid. The information check means 103, The center system 100 which consists of release key transfer meanses 104 to transmit

the release key for canceling protected data of synthetic image data, An image data storing means 201 to store synthetic image data or the restored subject-copy image information, A protected data release means 203 to receive a release key and to cancel protected data, the display 204 which displays synthetic image data or the restored subject-copy image information, and the image information system characterized by having equipment 200 in the end of a user side edge shell composition is carried out are offered.

[0011] Here, the synthetic image data creation means 101 compounds protected data to subject-copy image information, and creates synthetic image data. The synthetic image data transfer means 102 transmits synthetic image data to a user. The payment information check means 103 cancels protected data of synthetic image data, and the charge for restoring subject-copy image information pays it, and it checks information. The release key transfer means 104 transmits a release key required in order to cancel protected data of synthetic image data. The image data storing means 201 stores the transmitted synthetic image data or the restored subject-copy image information. The protected data release means 203 receives a release key, cancels protected data of synthetic image data, and restores it to subject-copy image information. Display 204 displays synthetic image data or the restored subject-copy image information.

[0012]

[Embodiments of the Invention] Hereafter, the form of operation of this invention is explained based on a drawing. Drawing 1 is the principle view of the image information system of this invention. An image information system consists of equipment 20 and a financial institution 3 in the center system 10 which offers image information service, and the end of a user side edge.

[0013] The center system 10 consists of a subject-copy image information restoration [ which restores synthetic image data to the information check means 12 and subject-copy image information ] means 13 which a synthetic image data creation means 11 to create synthetic image data, and a charge pay, and checks information, and an image data transfer means 14 to transmit synthetic image data or the restored subject-copy image information, by paying.

[0014] Equipment 20 consists of an image data storing means 21 to store synthetic image data or the restored subject-copy image information, and display 23 which displays the stored synthetic image data or the restored subject-copy image information in the end of a user side edge. Moreover, a financial institution 3 pays, notifies and pays information for a center system, and contains notice means of information 3a.

[0015] Next, operation of each means is explained. The synthetic image data creation means 11 compounds protected data to subject-copy image information, and creates synthetic image data. Here, protected data is data which play the role of the copy protection for not making subject-copy image information reproduce illegally.

[0016] Here, the synthetic operation for creating synthetic image data adds the subject-copy image information transparency value which it is as a result of [ of the level value of subject-copy image information, and the rate of a transmission ratio of subject-copy image information ] addition, and the protected data transparency value which it is as a result of [ of the level value of protected data, and the rate of a transmission ratio of protected data ] addition to each pixel which should be compounded.

[0017] For example, the ratio which subject-copy image information is transparent, and 8 and protected data are transparent and laps the lapping ratio is set to 2. Furthermore, 100 and the level value (0-255) of protected data perform [ the level value (0-255) of subject-copy image information ] the following calculation as 20.

[0018]  $100(\text{level value of subject-copy image information}) \times [8/10] (\text{rate of transmission ratio of subject-copy image information}) = 80$  are made into a subject-copy image information transparency value, and let  $20(\text{level value of protected data}) \times [2/10] (\text{rate of transmission ratio of protected data}) = 4$  be a protected data transparency value. And a subject-copy image information transparency value and a protected data transparency value are added, and let 84 ( $80+4=84$ ) be one pixel value of synthetic image data. It carries out to all the pixels that should compound such an operation, and synthetic image data is created.

[0019] The charge required in order to restore to subject-copy image information from synthetic image data from a user pays the payment information check means 12, and it checks information. A charge pays and use of a credit card etc. is also included as information.

[0020] After paying the subject-copy image information restoration means 13, paying it with the information check means 12 and checking information, it restores synthetic image data to subject-copy image information. Here, the restoration operation restored to subject-copy image information from synthetic image data subtracts a protected data transparency value from the result of a synthetic operation, and carries out the division of the subtraction value at the rate of a transmission ratio of subject-copy image information. For example, if the above-mentioned numeric value is used, an operation like  $[84-4(\text{protected data transparency value})] / [8/10] (\text{rate of transmission ratio of subject-copy image information}) = 100$  will be performed to each pixel.

[0021] The image data transfer means 14 transmits synthetic image data or the restored subject-copy image information to equipment 20 in the end of a user side edge. The image data storing means 21 stores the synthetic image data or the restored subject-copy image information transmitted from the center system 10.

[0022] Display 23 displays the stored synthetic image data or the restored subject-copy image information. After the charge for restoring from a user pays notice means of payment information 3a and it receives 22, it is paid and notifies information to the center system 10.

[0023] Next, a flow until the subject-copy image information that the user was restored comes to hand is explained using a

flow chart. Drawing 2 is a flow chart which shows procedure until subject-copy image information comes to hand from synthetic image data.

[S1] A user pays the charge for restoring subject-copy image information from synthetic image data to a financial institution on-line.

[S2] The financial institution which received payment pays, pays with the notice means of information, and notifies information to a center system.

[S3] A center system is paid, pays the price which is information, and the method of paying, and restores subject-copy image information from synthetic image data with a subject-copy image information restoration means after a check by the information check means.

[S4] An image data transfer means transmits the restored subject-copy image information to equipment in the end of a user side edge.

[S5] An image data storing means stores the restored subject-copy image information. And display displays the subject-copy image information.

[0024] The computer program which realizes the function of the center system 10 which was explained above, and the computer program for realizing the function of equipment 20 in the end of a user side edge are memorized by storages, such as semiconductor memory and a magnetic storage medium.

[0025] Next, the gestalt of operation of the 2nd of the image information system of this invention is explained. Drawing 3 is the principle view of the gestalt of operation of the 2nd of an image information system. An image information system consists of equipment 200 and a financial institution 3 in the center system 100 which offers image information service, and the end of a user side edge.

[0026] The center system 100 consists of a synthetic image data creation means 101 to create synthetic image data, a synthetic image data transfer means 102 to transmit synthetic image data, and a release key transfer means 104 to transmit the release key for canceling protected data of the information check means 103 and synthetic image data by paying which a charge pays and checks information.

[0027] Shell composition of the equipment 200 is carried out in the end of a user side edge with an image data storing means 201 to store synthetic image data or the restored subject-copy image information, a protected data release means 203 to receive a release key and to cancel protected data, and the display 204 that displays synthetic image data or the restored subject-copy image information. Moreover, a financial institution 3 pays, notifies and pays information for a center system, and contains notice means of information 3a.

[0028] Next, operation of each means is explained. The synthetic image data creation means 101 compounds protected data to subject-copy image information, and creates synthetic image data. Protected data is data which play the role of the copy protection for not making subject-copy image information reproduce illegally. Moreover, since it is the same as that of what was explained above, a synthetic operation is omitted.

[0029] The synthetic image data transfer means 102 transmits synthetic image data to equipment 200 in the end of a user side edge. The payment information check means 103 cancels protected data of synthetic image data, and the charge required in order to restore subject-copy image information from a user pays it, and it checks information. A charge pays and use of a credit card etc. is also included as information.

[0030] After paying the release key transfer means 104, paying it with the information check means 103 and checking information, it transmits a release key. This release key has the coordinate of the field which is compounding subject-copy image information by the protected data.

[0031] The image data storing means 201 stores the transmitted synthetic image data or the restored subject-copy image information. The protected data release means 203 receives the release key transmitted from the center system 100, cancels protected data of synthetic image data, and restores it to subject-copy image information. Since the release key has a coordinate corresponding to the pixel currently compounded, protected data is canceled based on this. Moreover, since it is the same as that of the restoration operation explained above, release of protected data is omitted.

[0032] Display 204 displays synthetic image data or the restored subject-copy image information. After the charge for restoring from a user pays notice means of payment information 3a and it receives 202, it is paid and notifies information to the center system 100.

[0033] Next, a flow until a user receives image information is explained using a flow chart. Drawing 4 is a flow chart which shows procedure until image information comes to hand from synthetic image data.

[S10] A user cancels protected data of synthetic image data to a financial institution on-line, and pays the charge for restoring subject-copy image information.

[S11] The financial institution which received payment pays, pays with the notice means of information, and notifies information to a center system.

[S12] A center system transmits the release key for paying, paying the price which is information, and the method of paying, and a release key transfer means canceling protected data of synthetic image data after a check with an information check means to equipment in the end of a user side edge.

[S13] A protected data release means receives a release key, and cancels protected data of the synthetic image data stored in the image data storing means.

[S14] Display displays the restored subject-copy image information.

[0034] The computer program which realizes the function of the center system 100 which was explained above, and the computer program for realizing the function of equipment 200 in the end of a user side edge are memorized by storages, such as semiconductor memory and a magnetic storage medium.

[0035] As explained above, it considered as the composition which can trade in the image data from which the copyright of image data was protected and copyright was protected on-line. Thereby, only when a copyright owner approves, it enables a user for image information to come to hand.

[0036] Moreover, the synthetic image data which is spaced and was piled up as protection of copyrights was made the composition with which a user is provided. Since the overview of an outline can be recognized by this even if image information is protected by the protected data, a user becomes possible [ searching image information needed easily ].

[0037]

[Effect of the Invention] As explained above, the image information system of this invention was considered as the composition which can trade in the image data from which the copyright of image data was protected and copyright was protected on-line. Thereby, only when a copyright owner approves, it enables a user for image information to come to hand.

[0038] Moreover, the storage which memorized the image information service transport agent of this invention was considered as the composition which transmits the release key for [ of the subject-copy image information restored to the user ] transmitting or restoration displaying after the check of payment of the charge from a user. Only when a copyright owner approves by this, it becomes possible to build the computer which transmits image information service to a user.

[0039] Furthermore, after, as for the storage which memorized the image information service display program of this invention, the user paid the charge, the user was taken as the composition which receives the release key for [ of the restored subject-copy image information ] displaying or restoration displaying. Only when a copyright owner approves by this, it becomes possible to build the computer by which a user can display image information service.

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TECHNICAL FIELD

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[The technical field to which invention belongs] this invention is the image information system and computer which offer the image information service especially according to the demand from a user about the storage which memorized the image information system, the storage which memorized the image information service transport agent, and the image information service display program. It is related with the storage which memorized the image information service display program for displaying image information service on a user by the storage and computer which memorized the image information service transport agent for transmitting image information service to a user.

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PRIOR ART

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[Description of the Prior Art] The conventional image information system puts an image information file on a center, and is connected with the center through the telephone network etc. by using a home television set, a personal computer, an exclusive terminal, etc. as a terminal. And image information is offered according to the demand from a user, and spread is widely achieved so that information service can be enjoyed simple and economically.

[0003] On the other hand, since image information with such a high definition system is easily offered to a user, in the soft creation place of picture media, the right relation to a problem of copyright is becoming between copyright owners, such as a movie and an illustration, and a user.

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**EFFECT OF THE INVENTION**

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[Effect of the Invention] As explained above, the image information system of this invention was considered as the composition which can trade in the image data from which the copyright of image data was protected and copyright was protected on-line. Thereby, only when a copyright owner approves, it enables a user for image information to come to hand. [0038] Moreover, the storage which memorized the image information service transport agent of this invention was considered as the composition which transmits the release key for [ of the subject-copy image information restored to the user ] transmitting or restoration displaying after the check of payment of the charge from a user. Only when a copyright owner approves by this, it becomes possible to build the computer which transmits image information service to a user. [0039] Furthermore, after, as for the storage which memorized the image information service display program of this invention, the user paid the charge, the user was taken as the composition which receives the release key for [ of the restored subject-copy image information ] displaying or restoration displaying. Only when a copyright owner approves by this, it becomes possible to build the computer by which a user can display image information service.

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TECHNICAL PROBLEM

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[Problem(s) to be Solved by the Invention] However, the effective measures [ systems / image information / above ] to protection of copyrights were not taken. Therefore, there was a case where a user without a just right performed backup of image information, the copy to a hard disk, etc.

[0005] It aims at offering the image information system which can be come to hand under consent of a copyright owner by the image information which this invention is made in view of such a point, and the copyright of image information is protected, and a user makes the purpose.

[0006] Moreover, other purposes of this invention are offering the storage which memorized the image information service transport agent which can be come to hand under consent of a copyright owner by the image information which the copyright of image information is protected and a user's makes the purpose.

~~[0007] Furthermore, other purposes of this invention are offering the storage which memorized the image information service~~  
display program which can be come to hand under consent of a copyright owner by the image information which the copyright of image information is protected and a user's makes the purpose.

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MEANS

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[Means for Solving the Problem] A synthetic image data creation means 11 to create synthetic image data as shown in drawing 1 in order to solve the above-mentioned technical problem in this invention, A subject-copy image information restoration means 13 pays and restore subject-copy image information from the information check means 12 and synthetic image data for a charge to pay and to check information, The center system 10 which consists of image data transfer meanses 14 to transmit synthetic image data or the restored subject-copy image information, An image data storing means 21 to store synthetic image data or the restored subject-copy image information, The image information system characterized by having equipment 20 in the end of a user side edge it consists of display 23 which displays the stored synthetic image data or the restored subject-copy image information is offered.

[0009] Here, the synthetic image data creation means 11 compounds protected data to subject-copy image information, and creates synthetic image data. The charge for restoring synthetic image data to subject-copy image information pays the payment information check means 12, and it checks information. The subject-copy image information restoration means 13 restores synthetic image data to subject-copy image information. The image data transfer means 14 transmits synthetic image data or the restored subject-copy image information to a user. The image data storing means 21 stores synthetic image data or the restored subject-copy image information. Display 23 displays the stored synthetic image data or the restored subject-copy image information.

[0010] Moreover, a synthetic image data creation means 101 to create synthetic image data as shown in drawing 3, A synthetic image data transfer means 102 to transmit synthetic image data, and a charge pay, and information is checked and paid. The information check means 103, The center system 100 which consists of release key transfer meanses 104 to transmit the release key for canceling protected data of synthetic image data, An image data storing means 201 to store synthetic image data or the restored subject-copy image information, A protected data release means 203 to receive a release key and to cancel protected data, the display 204 which displays synthetic image data or the restored subject-copy image information, and the image information system characterized by having equipment 200 in the end of a user side edge shell composition is carried out are offered.

[0011] Here, the synthetic image data creation means 101 compounds protected data to subject-copy image information, and creates synthetic image data. The synthetic image data transfer means 102 transmits synthetic image data to a user. The payment information check means 103 cancels protected data of synthetic image data, and the charge for restoring subject-copy image information pays it, and it checks information. The release key transfer means 104 transmits a release key required in order to cancel protected data of synthetic image data. The image data storing means 201 stores the transmitted synthetic image data or the restored subject-copy image information. The protected data release means 203 receives a release key, cancels protected data of synthetic image data, and restores it to subject-copy image information. Display 204 displays synthetic image data or the restored subject-copy image information.

[0012]

[Embodiments of the Invention] Hereafter, the form of operation of this invention is explained based on a drawing. Drawing 1 is the principle view of the image information system of this invention. An image information system consists of equipment 20 and a financial institution 3 in the center system 10 which offers image information service, and the end of a user side edge.

[0013] The center system 10 consists of a subject-copy image information restoration [ which restores synthetic image data to the information check means 12 and subject-copy image information ] means 13 which a synthetic image data creation means 11 to create synthetic image data, and a charge pay, and checks information, and an image data transfer means 14 to transmit synthetic image data or the restored subject-copy image information, by paying.

[0014] Equipment 20 consists of an image data storing means 21 to store synthetic image data or the restored subject-copy image information, and display 23 which displays the stored synthetic image data or the restored subject-copy image information in the end of a user side edge. Moreover, a financial institution 3 pays, notifies and pays information for a center system, and contains notice means of information 3a.

[0015] Next, operation of each means is explained. The synthetic image data creation means 11 compounds protected data to subject-copy image information, and creates synthetic image data. Here, protected data is data which play the role of the copy protection for not making subject-copy image information reproduce illegally.

[0016] Here, the synthetic operation for creating synthetic image data adds the subject-copy image information transparency

value which it is as a result of [ of the level value of subject-copy image information, and the rate of a transmission ratio of subject-copy image information ] addition, and the protected data transparency value which it is as a result of [ of the level value of protected data, and the rate of a transmission ratio of protected data ] addition to each pixel which should be compounded.

[0017] For example, the ratio which subject-copy image information is transparent, and 8 and protected data are transparent and laps the lapping ratio is set to 2. Furthermore, 100 and the level value (0-255) of protected data perform [ the level value (0-255) of subject-copy image information ] the following calculation as 20.

[0018]  $100(\text{level value of subject-copy image information}) \times [8/10] (\text{rate of transmission ratio of subject-copy image information}) = 80$  are made into a subject-copy image information transparency value, and let  $20(\text{level value of protected data}) \times [2/10] (\text{rate of transmission ratio of protected data}) = 4$  be a protected data transparency value. And a subject-copy image information transparency value and a protected data transparency value are added, and let 84 ( $80+4=84$ ) be one pixel value of synthetic image data. It carries out to all the pixels that should compound such an operation, and synthetic image data is created.

[0019] The charge required in order to restore to subject-copy image information from synthetic image data from a user pays the payment information check means 12, and it checks information. A charge pays and use of a credit card etc. is also included as information.

[0020] After paying the subject-copy image information restoration means 13, paying it with the information check means 12 and checking information, it restores synthetic image data to subject-copy image information. Here, the restoration operation restored to subject-copy image information from synthetic image data subtracts a protected data transparency value from the result of a synthetic operation, and carries out the division of the subtraction value at the rate of a transmission ratio of subject-copy image information. For example, if the above-mentioned numeric value is used, an operation like

$[84 - (\text{protected data transparency value})] / [8/10] (\text{rate of transmission ratio of subject-copy image information}) = 100$  will be performed to each pixel.

[0021] The image data transfer means 14 transmits synthetic image data or the restored subject-copy image information to equipment 20 in the end of a user side edge. The image data storing means 21 stores the synthetic image data or the restored subject-copy image information transmitted from the center system 10.

[0022] Display 23 displays the stored synthetic image data or the restored subject-copy image information. After the charge for restoring from a user pays notice means of payment information 3a and it receives 22, it is paid and notifies information to the center system 10.

[0023] Next, a flow until the subject-copy image information that the user was restored comes to hand is explained using a flow chart. Drawing 2 is a flow chart which shows procedure until subject-copy image information comes to hand from synthetic image data.

[S1] A user pays the charge for restoring subject-copy image information from synthetic image data to a financial institution on-line.

[S2] The financial institution which received payment pays, pays with the notice means of information, and notifies information to a center system.

[S3] A center system is paid, pays the price which is information, and the method of paying, and restores subject-copy image information from synthetic image data with a subject-copy image information restoration means after a check by the information check means.

[S4] An image data transfer means transmits the restored subject-copy image information to equipment in the end of a user side edge.

[S5] An image data storing means stores the restored subject-copy image information. And display displays the subject-copy image information.

[0024] The computer program which realizes the function of the center system 10 which was explained above, and the computer program for realizing the function of equipment 20 in the end of a user side edge are memorized by storages, such as semiconductor memory and a magnetic storage medium.

[0025] Next, the form of operation of the 2nd of the image information system of this invention is explained. Drawing 3 is the principle view of the form of operation of the 2nd of an image information system. An image information system consists of equipment 200 and a financial institution 3 in the center system 100 which offers image information service, and the end of a user side edge.

[0026] The center system 100 consists of a synthetic image data creation means 101 to create synthetic image data, a synthetic image data transfer means 102 to transmit synthetic image data, and a release key transfer means 104 to transmit the release key for canceling protected data of the information check means 103 and synthetic image data by paying which a charge pays and checks information.

[0027] Shell composition of the equipment 200 is carried out in the end of a user side edge with an image data storing means 201 to store synthetic image data or the restored subject-copy image information, a protected data release means 203 to receive a release key and to cancel protected data, and the display 204 that displays synthetic image data or the restored subject-copy image information. Moreover, a financial institution 3 pays, notifies and pays information for a center system, and contains notice means of information 3a.

[0028] Next, operation of each means is explained. The synthetic image data creation means 101 compounds protected data to

subject-copy image information, and creates synthetic image data. Protected data is data which play the role of the copy protection for not making subject-copy image information reproduce illegally. Moreover, since it is the same as that of what was explained above, a synthetic operation is omitted.

[0029] The synthetic image data transfer means 102 transmits synthetic image data to equipment 200 in the end of a user side edge. The payment information check means 103 cancels protected data of synthetic image data, and the charge required in order to restore subject-copy image information from a user pays it, and it checks information. A charge pays and use of a credit card etc. is also included as information.

[0030] After paying the release key transfer means 104, paying it with the information check means 103 and checking information, it transmits a release key. This release key has the coordinate of the field which is compounding subject-copy image information by the protected data.

[0031] The image data storing means 201 stores the transmitted synthetic image data or the restored subject-copy image information. The protected data release means 203 receives the release key transmitted from the center system 100, cancels protected data of synthetic image data, and restores it to subject-copy image information. Since the release key has a coordinate corresponding to the pixel currently compounded, protected data is canceled based on this. Moreover, since it is the same as that of the restoration operation explained above, release of protected data is omitted.

[0032] Display 204 displays synthetic image data or the restored subject-copy image information. After the charge for restoring from a user pays notice means of payment information 3a and it receives 202, it is paid and notifies information to the center system 100.

[0033] Next, a flow until a user receives image information is explained using a flow chart. Drawing 4 is a flow chart which shows procedure until image information comes to hand from synthetic image data.

[S10] A user cancels protected data of synthetic image data to a financial institution on-line, and pays the charge for restoring subject-copy image information.

[S11] The financial institution which received payment pays, pays with the notice means of information, and notifies information to a center system.

[S12] A center system transmits the release key for paying, paying the price which is information, and the method of paying, and a release key transfer means canceling protected data of synthetic image data after a check with an information check means to equipment in the end of a user side edge.

[S13] A protected data release means receives a release key, and cancels protected data of the synthetic image data stored in the image data storing means.

[S14] Display displays the restored subject-copy image information.

[0034] The computer program which realizes the function of the center system 100 which was explained above, and the computer program for realizing the function of equipment 200 in the end of a user side edge are memorized by storages, such as semiconductor memory and a magnetic storage medium.

[0035] As explained above, it is considered as the composition which can trade in the image data from which the copyright of image data was protected and copyright was protected on-line. Thereby, only when a copyright owner approves, it enables a user for image information to come to hand.

[0036] Moreover, the synthetic image data which is spaced and was piled up as protection of copyrights was made the composition with which a user is provided. Since the overview of an outline can be recognized by this even if image information is protected by the protected data, a user becomes possible [ searching image information needed easily ].

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[Translation done.]

\* NOTICES \*

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1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

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DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is the principle view of the image information system of this invention.

[Drawing 2] It is the flow chart which shows procedure until subject-copy image information comes to hand from synthetic image data.

[Drawing 3] It is the principle view of the gestalt of operation of the 2nd of an image information system.

[Drawing 4] It is the flow chart which shows the procedure of the gestalt of the 2nd operation until subject-copy image information comes to hand from synthetic image data.

[Description of Notations]

10 Center System

11 Synthetic Image Data Creation Means

12 Pay and it is Information Check Means.

13 Subject-Copy Image Information Restoration Means

14 Image Data Transfer Means

20 The End Equipment of User Side Edge

21 Image Data Storing Means

22 Pay.

23 Display

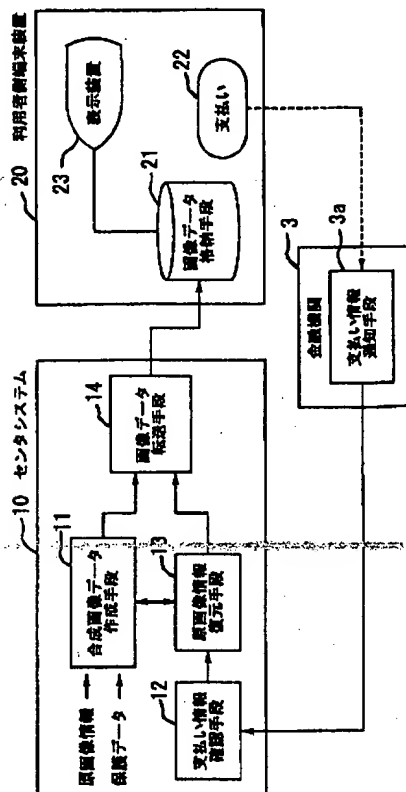
3 Financial Institution

3a Pay and it is a notice means of information.

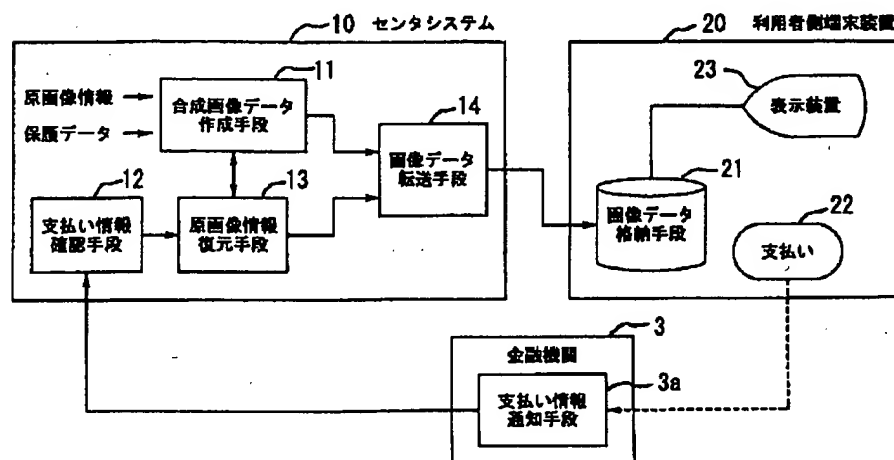
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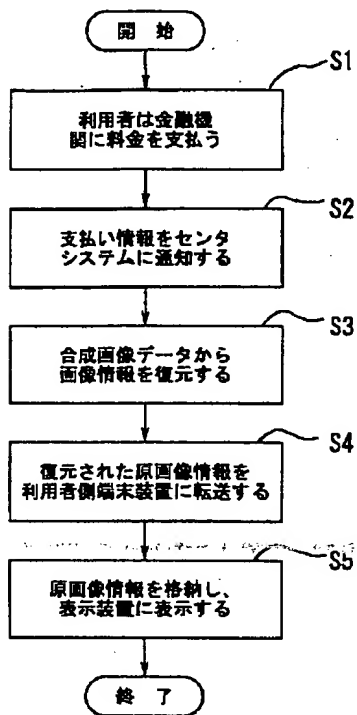




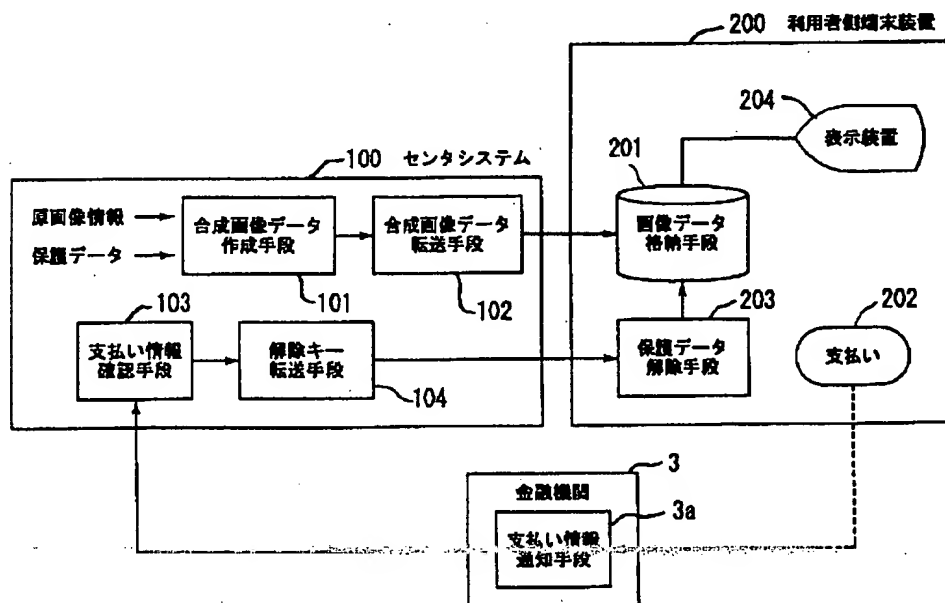
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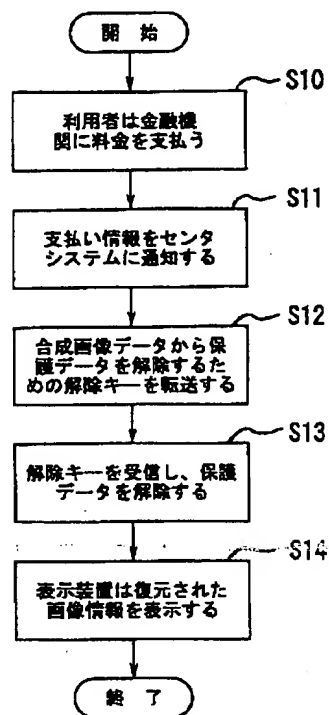
[Translation done.]



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